GEOCHEMISTRY INTERNATIONAL

VOLUME 12

CONTENTS FOR 1975

Number 1

	Page
Nekrasov, I. Ya., M. P. Kulakov and Zh. D. Sokolovskaya. Phase Relations in the Systems Sb_2S_3 — SnS and Sb_2S_3 - SnS_2	1
Kukley, L. N. Origin of Amphibolites of the Precambrian Ol'khonsk Series (Northwestern Baykal Region)	9
Kalinichenko, A. M., I. V. Matyash, T. P. Khomyak and V. I. Pavlishin. Distribution of Octahedral Cations in Biotites According to the Data of Proton Magnetic Resonance	18
Gerasimovskiy, V. I., N. V. Laktionova and Zh. M. Grinevskaya. Scandium and Yttrium in the Volcanic Rocks of Iceland	25
Voskresenskaya, N. T., A. B. Veymarn and N. A. Vinogradova. Thallium and Germanium in the Manganese and Iron Ores of the Dzhezdy Type Deposits (Central Kazakhstan)	34
Sobolev, S. F., A. V. Lapin, I. I. Nazarenko, I. V. Kislova and I. P. Ilupin. Selenium in the Kimberlites and Plutonic Peridotite Xenoliths of Yakutiya	40
Ganzeyeva, L. V. and A. A. Ganzeyev. Distribution of the Rare Earth Elements in the Alkalic Apodiabase and Apogranite Albitites of the Russian Platform	47
Gavrilenko, V. A. Radioactive Elements in the Sedimentary Rocks of the Chingasan Series in the Yenisey Range	53
Yudina, Z. D. On the Distribution of Li, Rb and K in the Lower Cambrian Rocks of the Irkutsk Amphitheater	62
Ostapenko, G. T. and N. S. Yaroshenko. Excess Pressure of Solid Phases Generated by Hydration (Experimental Data on Hydration of Plaster of Paris and Lime)	72
Kolesov, G. M., V. V. Anikiyev and V. S. Savenko. On the Geochemistry of Rare Earth Elements in the Waters of the Black Sea	82

BRIEF COMMUNICATIONS

Smirnov, F. L. and A. R. Entin. Geochemical Relation between Gold and Phosphorus and Its Importance for Prospecting for Gold on the Aldan Shield	89
Belomar, O. D. and V. I. Morozov. Distribution of Mercury in the Crimean Mountains	93
Golubev, V. S. On the Dynamics of Convective Heat Transfer in Zone Melting	96
Kuskov, O. L. and N. I. Khitarov. Compositions of the Planetary Cores in the Earth Group. Part 2. Redox Conditions within the Earth and Venus	99
Yavnel', A. A. Element Distribution Trends in Iron Meteorites	113

GEOCHEMISTRY INTERNATIONAL

VOLUME 12

CONTENTS FOR 1975

Number 1

	Page
Nekrasov, I. Ya., M. P. Kulakov and Zh. D. Sokolovskaya. Phase Relations in the Systems Sb_2S_3 — SnS and Sb_2S_3 - SnS_2	1
Kukley, L. N. Origin of Amphibolites of the Precambrian Ol'khonsk Series (Northwestern Baykal Region)	9
Kalinichenko, A. M., I. V. Matyash, T. P. Khomyak and V. I. Pavlishin. Distribution of Octahedral Cations in Biotites According to the Data of Proton Magnetic Resonance	18
Gerasimovskiy, V. I., N. V. Laktionova and Zh. M. Grinevskaya. Scandium and Yttrium in the Volcanic Rocks of Iceland	25
Voskresenskaya, N. T., A. B. Veymarn and N. A. Vinogradova. Thallium and Germanium in the Manganese and Iron Ores of the Dzhezdy Type Deposits (Central Kazakhstan)	34
Sobolev, S. F., A. V. Lapin, I. I. Nazarenko, I. V. Kislova and I. P. Ilupin. Selenium in the Kimberlites and Plutonic Peridotite Xenoliths of Yakutiya	40
Ganzeyeva, L. V. and A. A. Ganzeyev. Distribution of the Rare Earth Elements in the Alkalic Apodiabase and Apogranite Albitites of the Russian Platform	47
Gavrilenko, V. A. Radioactive Elements in the Sedimentary Rocks of the Chingasan Series in the Yenisey Range	53
Yudina, Z. D. On the Distribution of Li, Rb and K in the Lower Cambrian Rocks of the Irkutsk Amphitheater	62
Ostapenko, G. T. and N. S. Yaroshenko. Excess Pressure of Solid Phases Generated by Hydration (Experimental Data on Hydration of Plaster of Paris and Lime)	72
Kolesov, G. M., V. V. Anikiyev and V. S. Savenko. On the Geochemistry of Rare Earth Elements in the Waters of the Black Sea	82

BRIEF COMMUNICATIONS

Smirnov, F. L. and A. R. Entin. Geochemical Relation between Gold and Phosphorus and Its Importance for Prospecting for Gold on the Aldan Shield	89
Belomar, O. D. and V. I. Morozov. Distribution of Mercury in the Crimean Mountains	93
Golubev, V. S. On the Dynamics of Convective Heat Transfer in Zone Melting	96
Kuskov, O. L. and N. I. Khitarov. Compositions of the Planetary Cores in the Earth Group. Part 2. Redox Conditions within the Earth and Venus	99
Yavnel', A. A. Element Distribution Trends in Iron Meteorites	113

Page

Cimbalnikova, A., M. Palivcova, J. Frana and A. Maštalka. Nondestructive Activation Assay of Major and Minor Elements in Rock Fragments from Luna-16 Regolith 124
Grinenko, V.A., L.V. Dmitriev, A.A. Migdisov and A.Ya. Sharas'kin. Sulfur Contents and Isotope Composition for Igneous and Metamorphic Rocks from Mid-Ocean Ridges 132
Levashev, G.B., V.L. Barsukov, T.M. Sushchevskaya and I.I. Malkov. Mo and W in Sediments in Certain Parts of the Pacific Ocean 138
Teys, E.V. and D.P. Naydin. Oxygen-Isotope Compositions for Polymorphic Varieties of Organically Derived Carbonates 146
Ivanova, G.F., N.I. Lavkina, L.A. Nesterova, A.P. Zhudikova and I.L. Khodakovskiy. Equilibrium in the MoO_3-H_2O System at 25-300° C 163
Fayziyev, A.R. and G.A. Yurgenson. Sr and Ba in Fluorite from Some Central Tadzhikistan Deposits and Showings 177
Nagapetyan, L.B. and Ye.B. Lebedev. A Laboratory Study of Crystallization in Volcanic Rocks from the Ishkhanasar Intrusion 190
Kiseleva, I.A. and N.D. Topov. The High-Temperature Specific Heat of Sapphirine 196

ABSTRACTS OF TRANSLATIONS NOT SELECTED FOR PUBLICATION

Aleksandrov, S.M. and S.V. Malinko. Geochemical Characteristics of Endogenic and Exogenic Alteration of Carbonato-Borates 199
Umyarova, R.S., V.S. Urusov and A.F. Vorob'yev. A Thermochemical Investigation of Solid Solutions in the System LiCl—$MnCl_2$ 199
Chinenov, V.A., I.N. Marov, V.K. Belyayeva, T.V. Drozdova and M.P. Bogacheva. An Electron Paramagnetic Resonance Investigation of Vanadium and Copper in the Bitumens of the Sedimentary Rocks 200
Bochkarev, B.N., V.Ya. Zhavoronkov and A.A. Kulikov. Trace Elements in Quartz from the Yenisey Range According to the Data of Neutron Activation Analysis 200
Ivanova, G.F. Moscow Geochemical Seminar 200
Naumov, G.B. and V.A. Dorofeyeva. Chemical Nature of the Acidity Evolution in Endogenous Solutions 201
Fleyshman, D.G., Yu.P. Kanevskiy and Z.G. Gritchenko. Age Determination on Natural Waters with Cosmic-Ray and Man-Made ^{22}Na 201
Kravchenko, S.M., A.P. Kalita, L.B. Flerova and B.S. Rabinovich. Variation of Uranium Concentration in Plagioclase from Various Zones in the Microcline-Albite-Oligoclase Pegmatites of Karelia 201
Naumov, V.B., A.A. Nikitin and A.N. Salazkin. A Thermometric Study of Melt Inclusions in Quartz Phenocrysts in East Transbaykalia Acid Lavas 201
Ostapenko, G.T. The Physicochemical Mechanism of Stylolite Formation 201
Kolotov, B.A., M.A. Boldyrev, B.B. Vagner, L.I. Minacheva, T.S. Spasskaya and L.A. Sokolovskaya. Potassium Metasomatism Zones, Indicators for Au-Ag Mineralization by Hydrogeochemical Data 202
Sobornov, O.P. and A.I. Polyakov. Radioelement Contents of International Geochemical Standards and Soviet Standard Rock Specimens 202
Srebrodol'skiy, B.I. Carbon Isotope Compositions of Carbonates from the Podgornaya Sulfur Deposit 202

Number 2

Galimov, E.M., A.A. Migdisov and A.B. Ronov. Variation in the Isotopic Composition of Carbonate and Organic Carbon in Sedimentary Rocks during Earth's History 1
Chukhrov, F.V., V.S. Churikov, L.P. Yermilova and L.P. Nosik. On the Variation of Sulfur Isotopic Composition in Some Natural Waters 20
Kuskov, O.L. and N.I. Khitarov. A Geochemical Model of Formation of the Outer and Inner Cores of the Earth 34
Khodakovskiy, I.L., M.Ya. Popova and N.A. Ozerova. On the Role of Sulfide Complexes in the Transport of Mercury by Hydrothermal Solutions 37

Page

Barsukov, V. L., N. A. Durasova and R. P. Kravtsova. Some Chemical Characteristics of Volcanic Rocks of Iceland and the Mid-Atlantic Ridge 48
Kostina, R. I. and T. M. Sushchevskaya. Inclusions in Quartz of Felsic Volcanic Rocks as Indicators of the Presence of Ores 59
Naumov, V. B. and G. F. Ivanova. Thermobaric Conditions of Formation of Fluorite at Wolframite Deposits 64
Aleksandrov, S. M. On the Characteristics of the Acid Leaching Stage at the Boron and Tin Deposits in Magnesian Skarns 78
Volynets, O. N., A. V. Koloskov, E. I. Popolitov, V. M. Novikov, I. T. Kirsanov, G. B. Flerov and Yu. M. Dubik. Geochemical Characteristics of Olivines from Different Types of Quaternary Basalts of Kamchatka and Kurile Islands and the Problems of Petrogenesis 88
Levitan, M. A., E. I. Dontsova, A. P. Lisitsyn and Yu. A. Bogdanov. The Origin of Chert in the Seidments of the Pacific Ocean from Data of Oxygen Isotopic Analysis and a Study of the Distribution of Chert 95
Bagin, V. I., O. A. Bagina, Yu. A. Bogdanov, T. S. Gendler, A. I. Lebedev, A. P. Lisitsyn and D. M. Pecherskiy. Iron in the Metalliferous Sediments of the Bauer Deep and East Pacific Rise 105
Ostapenko, G. T. Theories of Local and Absolute Chemical Potential, Their Experimental Testing and Application of the Phase Rule to the Systems with Nonhydrostatically Stressed Solid Phases 126
Kozlov, A. A. On the Distribution of Uranium in the Phosphorites of the Russian Platform 136
Aleksandrov, S. M. Geochemical Aspects of B-Sn Ore Formation in Alaska Deposits 139
Khitarov, N. I., V. A. Pugin, N. I. Revin, and I. A. Soldatov. Evidence on Melting of Granite from the Electrical Conductivity at High T and P 151
Galimov, E. M. and V. G. Shirinskiy. Ordered Distributions of Carbon Isotopes in Compounds and Components of the Lipid Fraction in Organisms 157
Pavlenko, V. S., A. S. Pavlenko, and B. Luvsandanzan. Mineralogy and Petrochemistry of Palingenic Granite Formation 181
Malinin, S. D. and N. A. Kurovskaya. Solubility of CO_2 in Chloride Solutions at Elevated Temperatures and CO_2 Pressures 199
Shmulovich, K. I. and V. M. Shmonov. Fugacity Coefficients for CO_2 from 1.0132 to 10,000 Bar and 450-1300°K 202
Klintsova, A. P., V. L. Barsukov, T. P. Shemarykina, and I. L. Khodakovskiy. Measurement of the Stability Constants for Sn(IV) Hydroxofluoride Complexes 207
Ivanenko, V. V. and L. A. Pamfilova. Measurement of the Stability Constants of Silver Chloride Complexes at 60-160° by Solubility Methods 216
Lebedeva, L. I. and L. N. Shatkova. The Distributions of Li, Rb, and Cs in Acid Volcanic Rocks 226
Skvortsov, V. A., V. M. Makagon, and B. M. Shmakin. The Tantalum-Bearing Pegmatites, Exocontact Alterations, and Primary Aureoles in a Siberian Deposit 233
Chepurov, A. I., V. S. Shatskiy, O. S. Pokachalova, and Yu. G. Lavrent'yev. Evidence from Melt Inclusions on the Chemistry and Crystallization of Theralites in Some Kuznetsk Alatau Intrusions 242
Pavshukov, V. V., L. V. Komlev, Ye. B. Anderson, and I. G. Smyslova. X-ray Microprobe Data on the State of the U-Pb System in Uranium Ores 251
Pampura, V. D. and V. M. Novikov. The Pauzhet Hydrothermal System and the Geochemistry of Pore Solutions from Ore-Formation Zones in Active Volcanic Regions 262
Bulashevich, Yu. P. and Yu. V. Khachay. The Moon's Radiogenic Atmosphere ... 272

ABSTRACTS OF TRANSLATIONS NOT SELECTED FOR PUBLICATION

Pitul'ko, V. M. and L. P. Tsvetkov. Structure and Formation of the Oxidized Zone at the Pervonachal'noye Tin-Bearing Stockwork (Chukotsk Peninsula) 276
Vakhrushev, V. A., V. P. Afonin and A. D. Glazunova. Cobalt and Nickel in the Pyrites of the Iron Deposits in the Southern Part of the Siberian Platform ... 276

Page

Polezhaev, Yu. M., D. S. Rutman, and Yu. S. Toropov. Hydrothermal Decomposition of Zirconosilicates 276

Number 3

Vinogradov, A. P., L. L. Kunin, N. P. Il'in, and V. P. Velyukhanov. Modeling of Partition of Metallic Iron and Nickel between Phases in Meteorites 1

Tolstikhin, I. N., I. Ya. Azbel', and L. V. Khabarin. The Isotopes of the Light Inert Gases in the Earth's Mantle, Crust and Atmosphere 10

Alekseyev, V. A., A. K. Lavrukhina, and Z. K. Mil'nikova. Variation in Radiocarbon Content in the Annual Rings of Sequoia (1890-1916) 23

Galimov, E. M., A. I. Tugarinov, and A. A. Nikitin. On the Origin of Whewellite in a Hydrothermal Uranium Deposit 31

Lukanin, O. A., and A. A. Kadik. The Effect of CO_2 on the Melting Temperatures of Albite and Diopside at Pressures up to 3000 atm 38

Bezmen, N. I., V. I. Tikhomirova, and V. P. Kosogova. Pyrite-Pyrrhotite Geothermometer: Partition of Nickel and Cobalt 45

Bannikova, L. A., T. M. Sushchevskaya, and B. I. Volkova. Chemical Composition of and Complexing in the Parent Solutions of Cinnabar Deposits of Northwestern Caucasus 60

Osherovich, E. Z., and L. P. Nikitina. Determination of Content of Elements in the Octahedral Positions in Ferromagnesian Micas by Valence Vibrations of OH^- 71

Bulakh, A. G., M. D. Yevdokimova, and N. S. Rudashevskiy. On the Distribution of Ni and Co in the Ultramafic Alkalic Rocks and Carbonatites of the Turiy Peninsula (Murmansk Region) 77

Sakharova, M. S., Yu. A. Batrakova, and S. K. Ryakhovskaya. Investigation of Electrochemical Interactions between Sulfides and Gold-Bearing Solutions 84

Talantsev, A. S. On Inapplicability of Nernst's Equation to Analysis of Equilibria of Polycomponent Minerals 90

Pluman, I. I. Distribution of Uranium, Thorium and Potassium in the Sedimentary Rocks of the West Siberian Platform 97

Belyayev, Yu. I. The Drift of Mercury between the Continental and Maria Regions of the Moon 108

Mints, R. I., I. I. Mil'man, V. I. Kryuk, and L. L. Kunin. Modeling and Measurement of Exoelectron Emission from Lunar Basalts 111

Kashkay, Ch. M., Yu. B. Borovskaya, and M. A. Babazade. Determination of $\Delta G^0_{f\,298}$ of Synthetic Jarosite and Its Sulfate Analogues 115

Khvostova, V. P., S. V. Golovnya, and N. V. Chernysheva. Platinum Group Metals in the Mafic Schists of the Granulite Complex, Sal'nyye Tundry, Kola Peninsula 122

Ostapenko, G. T., L. P. Timoshkova, and Yu. I. Goncharov. Free Enthalpy of Formation of Mullite from the Data on Its Solubility in Water at 530°C and 1300 bars 126

Kadik, A. A., G. T. Ostapenko, and M. Ya. Frenkel'. The Steam Pressure in a Magma Crystallizing in a Constant-Volume Chamber 130

Senderov, E. E., and G. M. Yas'kin. Conversion of Sanidine to Microcline under Hydrothermal Conditions 139

Kurepin, V. A., A Thermodynamic Analysis of the Cation Distribution in Simple Spinels 146

Ivanitskiy, V. P., I. V. Matyash, and F. I. Rakovich. Effects of Irradiation on the Mössbauer Spectra of Biotites 151

Yermolov, P. V., and V. D. Tyan. Fluorine Geochemistry in Granite Formation 158

Goleva, G. A., L. N. Aleksinskaya, and Ye. M. Shaparin. Trends in Rare-Element Occurrence and Accumulation in the Groundwaters at the SW Margin of the Russian Platform 165

Goncharov, G. N. Indirect Evidence for the Occurrence and Chemical Properties of a New Element in Meteorites 173

Page

Shvartsev, S. L. Volume and Composition Evolution for Infiltrating Groundwater in Aluminosilicate Rocks 184
Yemel'yanov, Ye. M., and O. S. Pustel'nikov. Compositions of River and Marine Forms of Suspended Matter in the Baltic 195
Ilupin, I. P., V. V. Ivanov, and A. D. Miller. Rhenium and Osmium in Yakutia Kimberlites 209
Brandt, S. B. Trends in Uranium and Lead Isotopes in Chondrite Meteorites 213
Matrosov, A. G., Ye. N. Chebotarev, A. J. Kudryavtseva, A. M. Zyukun, and M. V. Ivanov. Sulfur Isotope Composition in Freshwater Lakes Containing H_2S ... 217

ABSTRACTS OF TRANSLATIONS NOT SELECTED FOR PUBLICATION

Morozova, I. M., V. D. Sprintson, and L. K. Shurkina. Kinetics of Argon-40 Release from Plagioclase in Gabbro (Kola Peninsula) 222
Vaganov, P. A., A. I. Bulnayev, A. N. Zhukovskiy, and V. A. Meyer. The Activation Method of Measuring Isotope Ratios Hf^{180}/Hf^{174}, Zr^{94}/Hf^{174} and Zr^{94}/Hf^{180} in Minerals and Rocks 222
Parkhomenko, E. I., and S. A. Mkrtchyan. An Electrical-Resistance Study of High-Pressure Decarbonatization of Siderite, Magnesite, and Aragonite 223
Popova, M. Ya., I. L. Khodakovskiy, and N. A. Ozerova. Measurement of the Thermodynamic Parameters of Antimony Hydroxo Complexes and Hydroxo-fluoride Complexes up to 200°C 223
Konev, A. A., T. I. Yelizar'yeva, and V. A. Rusakova. Tin as an Indicator for Nepheline-Syenite Paragenetic Associations in the Western Baykal Area ... 223
Galimov, E. M., V. G. Shirinskiy, O. K. Bordovskiy, and V. G. Zaikin. Carbon Isotope Compositions of Lipids from Indian-Ocean Plankton 223
Dmitrienko, S. M., A. T. Khitrunov, and V. V. Uvarov. Geochemical Features of the Trans-Ili Alatau Granitoids 224
Nozik, Yu. Z., and L. Ye. Fizkin. Chlorine Isotope Ordering in Neutron-Diffraction Refinement of the Structure of Cotunnite $PbCl_2$ 224
Mamchur, G. P., and Z. V. Shabo. Carbon Isotope Composition and the Nature of CO_2 from Graphite 224
Pastukhova, M. V., and T. V. Tkacheva. Supergene Low-Temperature Corundum from North Kazakhstan Bauxites 224

Number 4

Galimov, E. M., A. A. Geodekyan, L. V. Galimova, and V. Ya. Trotsyuk. Formation of Petroliferous Zones in the Mid-Caspian Basin according to the Data on Carbon Isotopic Composition 1
Lein, A. Yu., V. A. Samarkin, A. M. Zyakun, A. G. Matrosov, A. I. Kudryavtseva, and M. V. Ivanov. On the Genesis of Native Sulfur in the Kerch Peninsula 15
Ivanitskiy, T. V., M. Sh. Kaviladze, and M. M. Rubinshteyn. Sulfur Isotopic Composition in the Hydrothermal Lead-Zinc and Copper Deposits of Georgia ... 26
Mints, R. I., E. V. Krivopishina, and T. M. Petukhova. Thermodiffusional and Deformational-Shift Elements in the Structure of Lunar Iron 34
Goncharov, G. N. On the Causes of the Rare Acts of Spontaneous Fission in Natural Materials 40
Tugarinov, I. A., I. G. Ganeyev, and I. L. Khodakovskiy. Thermodynamic Properties of Macedonite (α - $PbTiO_3$) and the Conditions of Its Formation in Hydrothermal Veins 47
Anfilogov, V. N. Liquation in Magmas and Petrographic Criteria for Its Recognition 54
Stavrov, O. D., and T. A. Zozulya. The K/Rb Ratio in Quartz from Tin Deposits as an Indicator of Their Magmatic Source 62
Emel'yanov, E. M., and O. S. Pustel'nikov. Content of Elements (C_{org}, SiO_2 amorph., Fe, Al, Ti, Mn, Ni, Cu, Co) in Suspensions in the Baltic Sea Waters 68
Skornyakova, N. S., E. S. Bazilevskaya, and V. V. Gordeyev. Mineralogy and Geochemistry of Ferromanganese Nodules in the Pacific Ocean 83

Page

Gladkikh, V.S., V.P. Fedorchuk, and Z.N. Lisichkina. Mercury in the Volcanic Rocks of the Alkali Olivine Basalt Series 96
Zhukova, A.M., I.A. Bergman, and G.V. Zhukov. Distribution of Uranium in the Geological Formations of the Ukrainian Shield 103

BRIEF COMMUNICATIONS

Tykva, R. Determination of Primordial and Cosmogenic Radionuclides in a Sample of Lunar Regolith Returned by the Automatic Probe "Luna-20" 117
Urusov, V.S., and V.V. Kurash. The Factors Governing Cation Distribution Ferromagnesian Minerals 120
Borutskaya, V.L., and E.V. Vlasova. Infrared Spectra of Rubidium and Cesium Feldspars in Different Structural States 125
Novikov, G.V., V.K. Yegorov, V.I. Popov, and N.I. Bezmen. Mössbauer Study of Magnetic Transition in the High Temperature Hexagonal Iron Sulfide 128
Tolstikhin, I.N., and E.R. Drubetskoy. The $^3He/^4He$ and $(^4He/^{40}Ar)_{rad}$ Isotope Ratios for the Earth's Crust 133
Kuskov, O.L. Chemical Compositions of Cores of Planets of the Terrestrial Group. Part 3 Interaction between Core and Mantle 146
Ivanov, A.V. The Role of Evaporation in Composition Formation for Lunar Glasses 157
Tugarinov, A.I., Ye.V. Bilikova, T.V. Gracheva, Z.M. Motorina, and V.A. Makarov. The Lead Isotope Method and the Origin of the Lead Deposits in the North Caucasus Ore Province 158
Barsukov, V.L., G.B. Udintsev, T.M. Sushchevskaya, A.G. Volosov, V.S. Korzhanovskaya, and S.N. Knyazeva. Metal Contents of the Mixed Volcanic and Sedimentary Rocks of the North Atlantic 159
Gerasimovskiy, V.I., N.V. Laktionova, and V.G. Kovalenker. Vanadium, Chromium, Nickel, Cobalt, and Copper in Iceland Lavas 160
Khitarov, N.I., Ye.B. Lebedev, Ye.V. Venitsianov, and A.M. Dorfman. Diffusion of Water in Molten Silica 172
Yaroshevskiy, A.A., G.S. Barmina, and I.D. Shevaleyevskiy. Laboratory Data on Zone Melting in Olivine Orthopyroxenite 184
Pugin, V.A. Conversion of Olivine Tholeiites to Alkali Magmas 196
Dontsova, Ye.I., M.Ye. Sal'ye, L.M. Gavrilova, and L.I. Ioffe. Oxygen-Isotope Fractionation in the High-Temperature Carbonates of Metamorphic Complexes 202
Girin, Yu.P., V.A. Grinenko, G.D. Zagryzhskaya, and L.I. Savina. Pyrite Sulfur Isotope Composition and the Analcime Formation Conditions in the Galati Basin 220
Galimov, E.M. Causes of the Excess Ca and Deficient Na in the Sedimentary Shell of the Earth 221
Pisarchik, Ya.K., and M.N. Golubchina. Sulfur Isotope Compositions for Cambrian Calcium Sulfates from the Siberian Platform 227
Kalinin, D.V., and M.A. Shapovalova. Kinetics of Pyrophyllite Formation and the Stability Limits of the Mineral 231

Number 5

Tugarinov, A.I., and E.V. Bibikova. Geochronology of the Oldest Formation of Kola Peninsula 1
Aleksandrov, S.M. The Geochemistry of Formation of Skarns and Ores in the Crushed Zones of Carbonate Rocks 2
Leonova, L.L., and V.A. Legeido. Tin in Recent and Quarternary Volcanites of the Kurile-Kamchatka Island Arc 19
Polyakov, A.I., and O.P. Sobornov. Uranium, Thorium and Potassium in the Volcanic Rocks of Iceland 20
Antipin, V.S., Z.I. Petrova and M.I. Kuz'min. Alkali Feldspars from Granitic Rocks of Different Origin 28
Sorokin, V.I., G.V. Novikov, V.K. Yegorov, V.I. Popov and L.V. Sipavina. Mössbauer Study of Iron-Bearing Sphalerites 39

Page

Balitskiy, V.S., V.V. Komova and N.A. Ozerova. Stability and Intensity of Recrystallization of Stibnite in Hydrothermal Solutions 46
Tugarinov, I.A., I.G. Ganeyev and I.L. Khodakovskiy. Experimental Determination of Hydrolysis Constants of Lead Ions in Aqueous Solutions at Temperatures up to 300°C 47
Kazakov, G.A., T.F. Borovik-Romanova and A.I. Yermishkina. Variation in Time of Boron and Fluorine Content in Authigenic Marine Minerals (Illustrated by Glauconite) 56
Titayeva, N.A., V.Ya. Ovchenkov and T.I. Veksler. The Behavior of Radium in Continental Sedimentation (under Humid Climatic Conditions) 72
Valitov, N.B., and R.B. Valitov. The Role of Temperature in Formation of Sulfur-Bearing Petroleums and Catagenic Hydrogen Sulfide in Carbonate Reservoirs (Experimental Investigations) 73
Stakheyev, Yu.I., A.K. Lavrukhina and S.A. Stakheyeva. Cosmic Abundance of Mercury 82
Vinogradov, A.P. Formation of the Metal Cores of the Planets 91
Bulashevich, Yu.P., and Yu.V. Khachay. Radioelement Migration in the Upper Mantle 95
Likhachev, A.P. Redeposition of Ore-Producing and Petrogenetic Components by Aqueous Solutions 101
Kurepin, V.A. Component Activities, Thermodynamic Characteristics of Reactions, and Phase Equilibria in the Fe-O System at High Temperatures and Pressures 114
Novgorodov, P.G. Solubility of Quartz in H_2O-CO_2 Mixtures at 700°C and Pressures of 3 and 5 kbar 122
Khodakovskiy, I.L., and A.Ye. Yelkin. Measurement of the Solubility of Zincite in Aqueous NaOH at 100, 150, and 200°C 127
Yemel'yanov, Ye.M., E.S. Trimonis, and K.M. Shimkus. Fe, Al, Ti, and Mn in Suspended Matter in the Black Sea 134
Pachadzhanov, D.N., I.P. Adamchuk, N.D. Mel'nikova and V.I. Korsun. Geochemistry of Bismuth in Sedimentation 149
Knyazev, D.A., A.A. Ivlev, G.D. Klinskiy and D.A. Denisov. Statistical Evaluation of Isotope Effects in Geochemical Processes 164
Korolev, D.F., B.I. Zadneprovskiy, and V.M. Radyanskiy. Formation of Garnet by Reaction of Molten Metal with Pyrophyllite during Diamond Synthesis 173
Karyakin, A.V., Yu.B. Kholina and N.V. Soboleva. The Interaction of Water with Silica 176

Number 6

Shukolyukov, Yu.A., T. Kirsten, E.K. Jessberger, and G.Sh. Ashkinadze. A New Xenon-Neutron Activation Method of Nuclear Geochronology (Xe_S-Xe_n Method) 1
Ryzhenko, B.N. Physicochemical Basis for the Determination of Forms in Which Chemical Elements are Transported in Aqueous Mineral-Forming Solutions 12
Shmakin, B.M., M.P. Glebov, G.G. Afonina, and M.G. Petrova. Some Characteristics of Composition and Structural State of Potassic Feldspars from Rare-Metal Pegmatites 22
Beskrovnyy, N.S., E.I. Kudryavtseva, and V.A. Lobkov. Carbon Isotopic Composition of the Natural Gases of Kamchatka 29
Stakheyev, Yu.I., V.I. Gerasimovskiy, and S.A. Stakheyeva. On Mercury Content in Igneous Rocks 37
Kazanskiy, Yu.P. and E.I. Dontsova. The Origin of Cosedimentational Bodies of Quartz and Chalcedony according to Data on Oxygen Isotopic Composition 45
Samoylov, V.S. The Temperatures of Formation of Carbonatites (Based on Geothermometric Studies) 52
Bezmen, N.I. and V.I. Tikhomirova. The Effect of Temperature on Distribution of Cobalt and Nickel between Iron Sulfides and Solutions of Different Composition 59

Page

Chupis, N.E. On the Geochemistry of Ammonium and Nitrogen in Ground Waters (with the Steppe Crimea as an Example) 66
Dikun, A.V., V.M. Korobeynik, and I.N. Yanitskiy. Some Indications of Existence of Transcrustal Gas Flow 73
Pankina, R.G., S.P. Maksimov, M.K. Kalinko, I.B. Monakhov, and S.M. Guriyeva. Sulfur Isotopic Composition in the Phanerozoic Evaporites of Bulgaria 79
Andreyev, M.I. and A.M. Chernyayev. Migrational Capacity of Metals in the Supergene Zone of Sulfide Deposits 84
Silichev, M.K. and B.V. Belozertseva. Distribution of Gold among Sulfides and Sulfosalts in a Gold Deposit 90
Novikov, G.V., V.K. Yegorov, V.I. Popov, L.V. Sipavina, and G.Yu. Odinets. Mössbauer and Powder-Pattern Studies of Phase Transitions in Iron-Rich Pyrrhotite 95
Shcherbina, V.V. Degrees of Sulfidization of Minerals 103
Gerasimovskiy, V.I., Ye.N. Savinova, G.V. Sapronova, and L.V. Krigman. Phosphorus and Fluorine Contents of Icelandic Lavas 109
Senderov, E.E., G.M. Yas'kin, and A.M. Bychkov. Effects of Alkaline Solutions on Si-Al Ordering in Potash Feldspar 116
Letnikov, F.A., N.V. Vibor, T.P. Gantimurova, I.V. Konovalov, B.O. Shkandriy, and F.A. Shkarupa. Transport Forms of Gold and Fluid Evolution in the Production of Gold-Bearing Metamorphogenic Quartz Veins 126
Pampura, V.D. Heat and Mass Transfer in Hydrothermal Systems 135
Ivanitskiy, V.P., A.M. Kalinechenko, I.V. Matyash, and T.P. Khomyak. Mössbauer and PMR Studies of Oxidation and Dehydroxylation in Biotite 145
Vdovykin, G.P., V.I. Grachev, T.V. Malysheva, and L.M. Saratova. A Mössbauer Study of the Forms of Iron in Carbonaceous Meteorites. Part I. The Iron Phases in Carbonaceous Chondrites and Ureilites 152

BRIEF COMMUNICATIONS

Balashov, Yu.A. and L.D. Krigman. The Effects of Alkalinity and Volatiles on Rare-Earth Separation in Magmatic Systems 165
Kolotov, B.A., T.S. Spasskaya, L.I. Minacheva, and B.B. Vagner. The Acid Sorption Barrier for Gold in the Supergene Zones of Ore Deposits 171
Teryakov, V.A., P.K. Vinokurov, E.I. Zheleznova, and A.I. Smirnova. Uranium in Bauxites 173